



# MX5000 MaxxDSP

## Product Brief

The MX5000 is the first in a family of MaxxDSP audio processors from Waves. The MX5000 is preprogrammed with Waves MaxxAudio psychoacoustic algorithms to compensate for size, power and positioning acoustic limitations in small loudspeakers systems. It is ideal for mainstream consumer electronic products with active 2.0 and 2.1 speakers including televisions, portable audio, mini-systems and USB speakers.

### Software Features/Algorithms:

Frequency Compensation  
+ MaxxBass® bass extension  
+ MaxxTreble™ high freq extension  
+ 5-band parametric MaxxEQ™  
Dynamics Compensation  
+ MaxxVolume™  
+ Auto Input Leveler  
Imaging Compensation  
+ MaxxStereo™ wide stereo  
Simple Control Options  
+ Extensive I<sup>2</sup>C Slave commands  
+ I<sup>2</sup>C Host boots from ext serial flash  
+ Standalone mode

### Hardware Features:

24bit DSP core  
Preprogrammed algorithms in ROM  
48, 44.1 and 32kHz sample rate support  
Analog Audio I/O (4Vpp)  
+ stereo ADC with 3:1 input mux  
+ stereo plus subwoofer DAC  
Digital Audio I/O  
+ 3 stereo inputs, 2 stereo outputs  
Audio Control Pins  
+ Control ADC (8-bit) with 8 input pins  
+ Amp\_Mute out, HP\_Sense jack input  
5V analog/1.8V core – low power design  
40-lead QFN package (6 x 6 x 0.9mm)

The system designer requires no audio algorithm or DSP programming experience to utilize the MaxxAudio technologies, the industry's most advanced loudspeaker compensation algorithms. The OEM establishes several presets to optimize audio for their target speaker system, while the consumer can be provided familiar controls that deliver superior sound than the traditional linear controls.

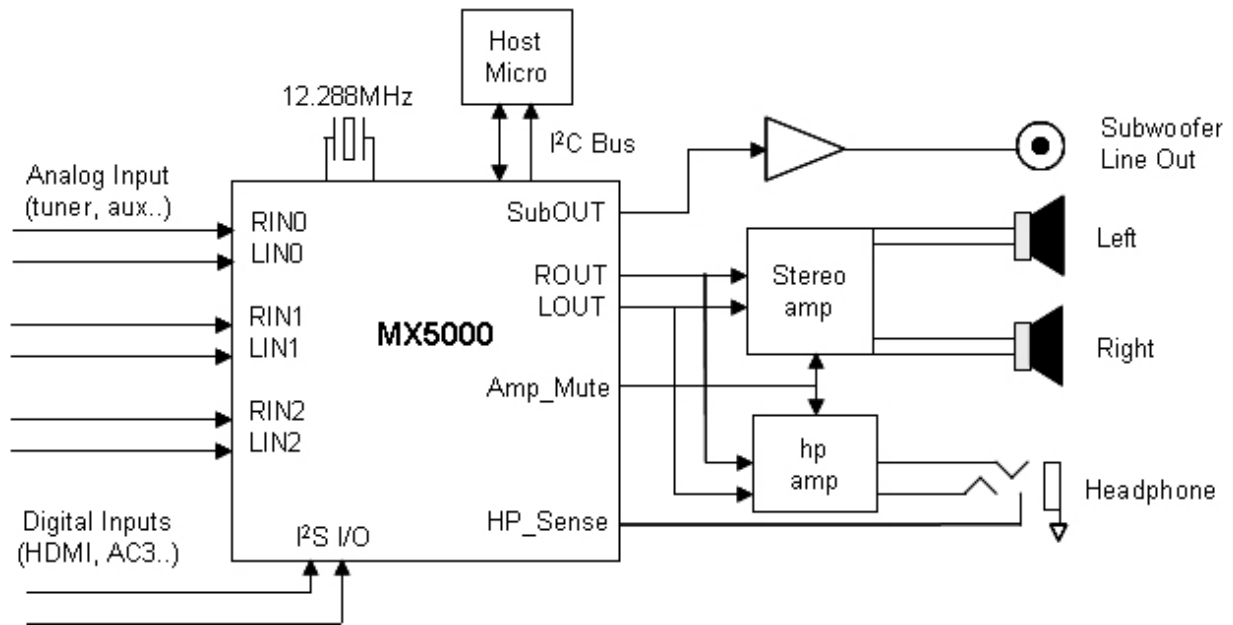
- **MaxxVolume** replaces the traditional user volume control. MaxxVolume combines high level limiting, low level compression and noise gating. It delivers higher maximum volume output without audible distortion or increased amplifier and speakers costs. It also improves clarity in noisy environments.
- **MaxxBass** and **MaxxTreble** replace traditional Bass and Treble controls, while delivering extended frequency response and more natural sound quality.
- **MaxxStereo** widens the audio image from closely spaced stereo speakers.

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*Maxx, MaxxBass, MaxxAudio, MaxxTreble, MaxxEQ, MaxxVolume, and MaxxStereo are trademarks or registered trademarks of Waves Audio Ltd. in the U.S. and other countries.*

## Application Examples

### Television System in I<sup>2</sup>C Slave Mode



### Active Speaker System in I<sup>2</sup>C Host Mode

